REMARKS

The Office Action dated December 23, 2009 has been received and carefully noted. The above amendments to the claims, and the following remarks, are submitted as a full and complete response thereto.

STATUS OF THE CLAIMS

Claims 1-16 are currently pending in the application, of which claims 1, 13, and 16 are independent claims. Claims 1, 13, and 16 have been amended to more particularly point out and distinctly claim the subject matter of the present invention. No new matter has been added. Claims 1-16 are respectfully submitted for consideration.

CLAIM REJECTIONS UNDER 35 U.S.C. 103

Claims 1, 4, 11, 13, and 15-16 were rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Appln. Pub. No. 2002/0073086 of Thompson et al. ("Thompson") in view of U.S. Patent No. 7,075,929 of Korus et al ("Korus"). The Office Action acknowledged that Thompson fails to disclose or suggest all of the features of any of the presently pending claims, and cited Korus to remedy the deficiencies of Thompson with respect to the rejected claims. Applicants respectfully traverse this rejection.

Independent claim 1, upon which claims 2-12 depend, is directed to a method including transmitting multicast data packets in at least one first multicast tree from one transmitter through a plurality of multicast controllers to a plurality of recipients. The

multicast connection from a multicast controller to a recipient is unidirectional. The method also includes generating at least one second multicast tree for control messages in an internet protocol network from a network multicast controller to at least one multicast controller at cell level. The method further includes transmitting the control messages from the network multicast controller along the at least one second multicast tree to the at least one multicast controller at cell level. The control messages include information on the multicast transmission of the internet protocol network and a command configured to connect to the at least one first multicast tree of the internet protocol network configured for multicasts.

Independent claim 13, upon which claims 14-15 depend, is directed to an arrangement for implementing multicasting in internet protocol networks, including a plurality of routers configured to transmit different components in the internet protocol networks to each other. The arrangement also includes at least one first multicast tree configured to transmit multicast packets through a plurality of multicast controllers to a plurality of recipients. The multicast connection from a multicast controller to a recipient is unidirectional. The arrangement further includes a plurality of cell-level multicast controllers configured to transmit packets to the plurality of receivers. The arrangement additionally includes a network multicast controller that is arranged to control the cell-level multicast controllers. An internet protocol network includes at least one second multicast tree configured to route control messages from the network multicast controller to the plurality of cell-level multicast controllers. The network multicast controller is

configured to transmit the control messages along the at least one second multicast tree to the plurality of cell-level multicast controllers. The control messages include information on the multicast transmission of the internet protocol network and a command configured to connect to the at least one first multicast tree of the internet protocol network configured for multicast transmissions.

Independent claim 16 is directed to an arrangement including first transmission means for transmitting different components in internet protocol networks to each other. The arrangement also includes second transmission means for transmitting multicast packets through a plurality of multicast controllers to a plurality of recipients. The arrangement further includes third transmission means for transmitting packets to the plurality of receivers. The multicast connection from a multicast controller to a recipient is unidirectional. The arrangement additionally includes control means for controlling the cell-level multicast controllers. An internet protocol network includes fourth transmission means for routing control messages transmitted from the control means to the third transmission means. The control means is for transmitting the control messages along the fourth transmission means to the second transmission means. The control messages include information on the multicast transmission of the internet protocol network and a command configured to connect to the second transmission means of the internet protocol network configured for multicast transmissions.

Applicants respectfully submit that the combination of Thompson and Korus fails to disclose or suggest all of the features of any of the presently pending claims.

Thompson describes in Figs. 10a to 10d a content distribution network (C.S.2) and a multicast arrangement for queries (B.C) assuming that a reverse-path transmission is supported everywhere in the network. Thus, Thompson does not teach or suggest the first multicast tree and the second multicast tree, where "the multicast connection from a multicast controller to a recipient is unidirectional," as recited in independent claims 1, 13, and 16. Applicants respectfully note that Thompson requires, in particular, as illustrated and described in the examples of Figs 10a to 10d, a reverse-path transmission to end devices. This is particularly stated in connection with Figure 10b where the responses sent by the end devices are used to create a multicast arrangement for queries (B.C).

In Thompson, all communication is directly with the end devices, i.e., the recipients of the content distribution transmission. Thompson describes transmitting program data using the content distribution network from a content source, where the network transmits data. Thompson further describes transmitting instructions to join a new query distribution group. These instructions are transmitted to the recipients of the content distribution transmission using the content distribution network (C.S.2) as illustrated in Fig 10a. Upon receiving instructions the recipients send join messages to B.C (Fig 10b) constructing a tree. Thus, Thompson clearly lacks a multicast tree reserved for control messages. Specifically, Thompson fails to teach or suggest, at least, "transmitting the control messages from the network multicast controller along the at least one second multicast tree reserved for control messages to the at least one multicast

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controller at cell level, the control messages comprising information on the multicast transmission of the internet protocol network and a command configured to connect to the at least one first multicast tree of the internet protocol network configured for multicasts," as recited in independent claim 1 and similarly recited in independent claims 13 and 16.

Furthermore, Korus fails to cure the deficiencies of Thompson. Similar to Thompson, Korus assumes reverse-path transmission. Korus describes a system where multicast calls are routed to recipients. The base sites 101-112 communicate with communication units which may be arranged into talk groups using multiple RF channel pairs (paragraph [0014]). Thus, Korus discloses bidirectional transmissions between users, which is in direct contrast with the independent claims of the application where the connection from multicast controllers to a plurality of recipients is unidirectional.

The Office Action took the position that these features are disclosed by Thompson at Figures 10(a) and (c), and page 7, paragraph [0099]. In the cited portion, Thompson states, "The broadcast center sends CS 1 a message to be distributed to program A's recipients instructing them to join a new query distribution group rooted at the broadcast center group ... (step 1, FIG. 10(a))." The cited portion continues, "Upon receiving the instruction, [the recipients] send join messages up to the broadcast center, constructing the query distribution tree ... ." "Once the tree is established, the broadcast center multicasts queries on the new multicast group (step 4, FIG. 10(c))" (*see* Thompson at

page 7, paragraph [0099]). The Office Action asserted that this new multicast group of Thompson corresponds to the generated second multicast tree of the claimed invention.

However, Thompson fails to disclose or suggest transmitting queries, along the new multicast group, that include a command configured to connect to **another multicast tree**, such as the distribution tree of the program A. Accordingly, Thompson does not disclose or suggest generating at least one second multicast tree and transmitting control messages, along the at least one second multicast tree, that include a command configured to connect to at least one **first multicast tree**. Thus, Thompson fails to disclose or suggest a "multicast connection from a multicast controller to a recipient is unidirectional...transmitting the control messages from the network multicast controller along the at least one second multicast tree reserved for control messages to the at least one multicast controller at cell level, the control messages comprising information on the multicast transmission of the internet protocol network and a command configured to connect to the at least one first multicast tree of the internet protocol network configured for multicasts."

Korus, in turn, fails to disclose or suggest generating at least one second multicast tree and transmitting control messages, along the at least one second multicast tree, that include a command configured to connect to at least one first multicast tree.

Therefore, the combination of Thompson and Korus does not disclose or suggest "generating at least one second multicast tree ... and transmitting the control messages ... along the at least one second multicast tree ... the control messages comprising ... a

command configured to connect to the at least one first multicast tree," as recited in independent claim 1 and similarly recited in independent claims 13 and 16.

For at least the reasons discussed above, Applicants respectfully submit that the combination of Thompson and Korus fails to disclose or suggest all of the elements of independent claims 1, 13, and 16. Accordingly, Applicants respectfully request that the rejection of claims 1, 13, and 16 be withdrawn.

Claims 4, 11, and 15 depend from, and further limit, independent claims 1 and 13. Thus, each of claims 4, 11, and 15 recite subject matter that is neither disclosed nor suggested in the combination Thompson and Korus. Accordingly, Applicants respectfully request that the rejections of claims 4, 11, and 15 be withdrawn.

Reconsideration and allowance of claims 1, 4, 11, 13, and 15-16 are respectfully submitted.

Claims 2 and 14 were rejected under 35 U.S.C. 103(a) as being unpatentable over Thompson in view of Korus and further in view of U.S. Patent Appln. Pub. No. 2002/0143951 of Khan et al. ("Khan"). The Office Action took the position that the combination of Thompson and Korus discloses all of the elements of the claims, with the exception of the features recited in claims 2 and 14. The Office Action then relies upon Khan as allegedly curing these deficiencies in the combination of Thompson and Korus. Applicants respectfully traverse this rejection.

In order for this rejection to be sustainable, the combination of Thompson, Korus, and Khan must teach all the recitations of independent claims 1 and 13. Accordingly, the arguments presented above supporting the patentability of independent claims 1 and 13 over the combination of Thompson and Korus are incorporated herein to support the patentability of dependent claims 2 and 14. Therefore, it is respectfully requested that dependent claims 2 and 14 be allowed. Khan fails to cure the deficiencies of the combination of Thompson and Korus.

Khan generally relates to a method and a system for sending multicast information to a user using agents, network programs, that reside on multicast-enabled computers. The agents receive multicast data packets sent to members of a multicast group. The agents repackage the multicast information into a unicast data packet and forward the unicast data packet to a client registered with the agent (*see* Khan at Abstract).

However, Khan fails to cure the deficiencies of the combination of Thompson and Korus. Similarly to the combination of Thompson and Korus, Khan fails to disclose or suggest, at least, "multicast connection from a multicast controller to a recipient is unidirectional … generating at least one second multicast tree … and transmitting the control messages … along the at least one second multicast tree … the control messages comprising … a command configured to connect to the at least one first multicast tree," as recited in independent claims 1 and 13. Khan is silent as to teaching the particular features associated with the command of independent claims 1 and 13.

Therefore, the combination of Thompson, Korus, and Khan would not lead a person of ordinary skill in the art to arrive at the features of the command as recited in independent claims 1 and 13. Consequently, Applicants submit that independent claims 1 and 13 and related dependent claims 2 and 14 are not obvious over the combination of Thompson, Korus, and Khan. Accordingly, Applicants respectfully request that the rejection of claims 2 and 14 be withdrawn.

Reconsideration and allowance of claims 2 and 14 are respectfully submitted.

Claims 3, 5, and 9 were rejected under 35 U.S.C. 103(a) as being unpatentable over Thompson in view of Korus and further in view of U.S. Patent No. 6,243,758 of Okanoue ("Okanoue"). The Office Action took the position that the combination of Thompson and Korus discloses all of the elements of the claims, with the exception of the features recited in claims 3, 5, and 9. The Office Action then relies upon Okanoue as allegedly curing these deficiencies in the combination of Thompson and Korus. Applicants respectfully traverse this rejection.

In order for this rejection to be sustainable, the combination of Thompson, Korus, and Okanoue must teach all the recitations of independent claim 1. Accordingly, the arguments presented above supporting the patentability of independent claim 1 over the combination of Thompson and Korus are incorporated herein to support the patentability of dependent claims 3, 5, and 9. Therefore, it is respectfully requested that dependent

claims 3, 5, and 9 be allowed. Okanoue fails to cure the deficiencies of the combination of Thompson and Korus.

Okanoue generally relates to a computer network formed by subnetworks in which a multicast scope is defined as a reachable extent of multicast packets. Each host in the scope transmits a multicast packet containing a scope field indicating that transmission of the multicast packet beyond the scope is forbidden. The packet also contains a boundary flag indicating whether only those hosts within the scope are allowed to participate in a group activity or mobile hosts outside the scope are also allowed to participate in the group activity (*see* Okanoue at Abstract).

However, Okanoue fails to cure the deficiencies of the combination of Thompson and Korus. Similarly to the combination of Thompson and Korus, Okanoue fails to disclose or suggest, at least, "multicast connection from a multicast controller to a recipient is unidirectional … generating at least one second multicast tree … and transmitting the control messages … along the at least one second multicast tree … the control messages comprising … a command configured to connect to the at least one first multicast tree," as recited in independent claim 1. Okanoue is silent as to teaching the particular features associated with the command of independent claim 1.

Therefore, the combination of Thompson, Korus, and Okanoue would not lead a person of ordinary skill in the art to arrive at the features of the command as recited in independent claim 1. Consequently, Applicants submit that independent claim 1 and related dependent claims 3, 5, and 9 are not obvious over the combination of Thompson,

Korus, and Okanoue. Accordingly, Applicants respectfully request that the rejection of claims 3, 5, and 9 be withdrawn.

Reconsideration and allowance of claims 3, 5, and 9 are respectfully submitted.

Claims 6-8 were rejected under 35 U.S.C. 103(a) as being unpatentable over Thompson in view of Korus and further in view of U.S. Patent Appln. Pub. No. 2005/0063352 of Amara et al. ("Amara"). The Office Action took the position that the combination of Thompson and Korus discloses all of the elements of the claims, with the exception of the features recited in claims 6-8. The Office Action then relies upon Amara as allegedly curing these deficiencies in the combination of Thompson and Korus. Applicants respectfully traverse this rejection.

Amara is not prior art with respect to the present application, since Amara was filed October 14, 2004, which is later than the properly-perfected priority date of the present application, of September 7, 2001. Amara is related to U.S. Patent No. 6,839,338, which also has a later filing date than the present application, of March 20, 2002. Accordingly, it is respectfully requested that the rejection of claims 6-8 be withdrawn as based on a reference that is not prior art under 35 U.S.C. 102(e) or any other statutory section.

Reconsideration and allowance of claims 6-8 are respectfully submitted.

Claim 10 was rejected under 35 U.S.C. 103(a) as being unpatentable over Thompson in view of Korus and further in view of U.S. Patent Appln. Pub. No. 2005/0283447 of Xu et al. ("Xu"). The Office Action took the position that the combination of Thompson and Korus discloses all of the elements of the claims, with the exception of the features recited in claim 10. The Office Action then relies upon Xu as allegedly curing these deficiencies in the combination of Thompson and Korus. Applicants respectfully traverse this rejection.

Xu is not prior art with respect to the present application, since Xu was filed August 23, 2005, which is later than the priority date of the present application, of September 7, 2001. Xu is related to U.S. Patent Appln. No. 10/077,780, which also has a later filing date than the present application, of February 20, 2002. Accordingly, it is respectfully requested that the rejection of claim 10 be withdrawn as based on a reference that is not prior art under 35 U.S.C. 102(e) or any other statutory section.

Reconsideration and allowance of claim 10 are respectfully submitted.

Claim 12 was rejected under 35 U.S.C. 103(a) as being unpatentable over Thompson in view of Korus and further in view of U.S. Patent Appln. Pub. No. 2003/0061333 of Dean et al. ("Dean"). The Office Action took the position that the combination of Thompson and Korus discloses all of the elements of the claims, with the exception of the features recited in claim 12. The Office Action then relies upon Dean as

allegedly curing these deficiencies in the combination of Thompson and Korus. Applicants respectfully traverse this rejection.

Based on its actual filing date, Dean (filed May 3, 2002) is not prior art with respect to the present application since it was filed after September 7, 2001, which is the priority date for the present application. Applicants note that Dean's effective (not actual) filing date would appear to be May 4, 2001, based on its relationship to U.S. Provisional Patent Appln. No. 60/289,023 (the '023 application). Applicants note, however, that the '023 application is quite different, at least in form, from O'Neill. For example, the '023 application appears to be an invention disclosure. In any event, the '023 application was not published, as provisional applications are not published by the USPTO. Accordingly, for at least these reasons, it is respectfully requested that the rejection of claim 12 be withdrawn as based on a reference that is not prior art under 35 U.S.C. 102(e) or any other statutory section. If the rejection is maintained based on the disclosure of the '023 application, it is respectfully submitted that a *prima facie* rejection must substantiate the rejection with reference to the disclosure of the '023 application, by page and line number of that document.

Reconsideration and allowance of claim 12 are respectfully submitted.

CONCLUSION

For the reasons explained above, it is respectfully submitted that each of claims 1-16 recite subject matter that is neither disclosed nor suggested in the cited art. It is, therefore, respectfully requested that all of claims 1-16 be allowed, and that this application be passed to issue.

If for any reason the Examiner determines that the application is not now in condition for allowance, it is respectfully requested that the Examiner contact, by telephone, the applicants' undersigned representative at the indicated telephone number to arrange for an interview to expedite the disposition of this application.

In the event this paper is not being timely filed, the applicants respectfully petition for an appropriate extension of time. Any fees for such an extension together with any additional fees may be charged to Counsel's Deposit Account 50-2222.

Respectfully submitted,

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